

RESEARCH NOTE



CENTRAL STATES FOREST EXPERIMENT STATION
COLUMBUS, OHIO

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Central Reference File

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TIMBER VOLUME IN MISSOURI COUNTIES

Missouri's 15 million acres of commercial forest land were supporting 58.6 million cords of growing stock in 1959. Hard hardwood species (oak, hickory, hard maple, black walnut, ash, etc.) account for 49.1 million cords or 84 percent of this total. Soft hardwoods (elm, soft maple, sweetgum, blackgum, yellow-poplar, cottonwood, and sycamore) represent another 10 percent, and softwoods (shortleaf pine, redcedar and cypress) the remainder.

Included in the 58.6 million cords of total growing stock are 12.1 billion board feet of sawlog material. The oaks, led by white oak and black oak, account for two-thirds of the State's sawtimber volume. Elms account for more than half the soft hardwood sawtimber and 7 percent of the total sawtimber volume. Softwoods, mostly shortleaf pine, represent only 6 percent of the sawtimber total. Five individual species — white oak, black oak, post oak, northern red oak, and shortleaf pine — comprise 7.2 million board feet or three-fifths of Missouri's sawtimber volume.

Though accounting for only 14 percent of the total land area in the State, the 14-county Eastern Ozarks Region contains 37 percent of the total growing-stock volume and 27 percent of the sawtimber. Timber volume per county in the Eastern Ozarks averages 1,540 thousand cords of total growing stock including 235 million board feet of sawtimber. In contrast to the Eastern Ozarks are the sparsely forested Northern and Southwestern Prairie areas which contain only 19 percent of the State's total growing stock and 25 percent of the sawtimber. The average Prairie county contains 206 thousand cords of total growing stock which includes 58 million board feet of sawtimber.

Shannon County with 2,523 thousand cords of growing stock, including 393 million board feet of sawtimber, has more merchantable timber than any other Missouri county. Worth County with 60 thousand cords of growing stock, including 18 million board feet of sawtimber, has the least.

The forest inventory of Missouri was designed to provide a total volume estimate for the State with less than 2.0 percent error (one standard deviation). Sampling intensity was higher in the heavily forested regions of the State. As a result the volume estimates presented for these regions are subject to less error. Sampling error is greater for any region, county, or species group than for the State as a whole. Although subject to error, the estimates for small units of volume represent the best available information and will serve as a guide for management of resources.

This forest volume information resulted from a comprehensive resurvey of Missouri's forest resources that was completed through the combined efforts of the Forest Service of the U.S. Department of Agriculture, the School of Forestry of the University of Missouri, and the Missouri Conservation Commission. The T. J. Moss Tie Company also assisted with the survey in certain areas. The University of Missouri Agricultural Experiment Station is publishing regional statistical reports covering this resurvey. The Central States Forest Experiment Station will publish an analytical report for the State as a whole.

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Table 1.--Volume of growing stock and sawtimber on commercial forest land in the Ozark, Mississippi Riverborder, and Mississippi Bottomland Regions by species group, region, and county

EASTERN OZARKS

County	Growing stock (in thousand cords) 1/						Sawtimber (in million board feet) 2/								
	All		Soft	Hard	All		Softwoods	White oak	Other white	Black oak	Other red	Hickory	Black	Walnut	Elm
	species	Softwoods	hardwoods	hardwoods	species	Softwoods	(Q. alba)	oaks 3/	(Q. velutina)	oaks 4/					hardwoods
Bollinger	881.9	69.8	45.0	767.1	138.8	12.7	24.8	16.2	30.5	25.0	12.8	0.2	2.9	13.7	
Butler	1,231.0	152.6	131.9	946.5	219.1	33.1	19.1	21.7	26.7	67.5	10.9	.3	8.6	31.2	
Carter	1,548.9	294.1	32.7	1,222.1	258.3	60.3	40.3	28.8	54.9	48.5	15.9	.6	1.7	7.3	
Crawford	1,474.1	120.4	61.3	1,292.4	216.6	21.3	43.0	21.2	49.6	40.4	18.8	.3	4.4	17.6	
Dent	1,524.3	182.1	41.7	1,300.5	216.4	29.7	44.2	20.7	50.6	40.4	18.0	.4	2.6	9.8	
Iron	1,414.1	204.8	29.2	1,180.1	183.8	32.8	36.5	15.8	40.7	34.9	14.9	.2	1.5	6.5	
Madison	1,042.5	145.1	26.5	870.9	149.0	25.5	28.4	14.7	34.1	26.8	11.5	.3	1.6	6.1	
Oregon	1,855.4	287.7	45.7	1,522.0	307.4	61.6	51.6	35.3	66.7	57.8	20.3	.6	2.5	11.0	
Reynolds	2,175.1	283.7	55.8	1,835.6	308.7	44.7	62.3	29.0	72.9	57.5	25.4	.5	2.9	13.5	
Ripley	1,642.0	268.3	57.3	1,316.4	273.7	57.9	41.3	30.2	55.4	54.5	16.5	.4	3.3	14.2	
Saint Francois	646.3	49.8	18.1	578.4	98.5	8.8	20.6	11.3	25.2	18.5	8.9	.1	1.0	4.1	
Shannon	2,523.4	352.3	56.6	2,114.5	393.1	69.4	72.8	42.0	89.0	74.7	28.8	.8	2.9	12.7	
Washington	1,699.2	262.6	43.2	1,393.4	233.6	40.8	45.3	21.1	51.2	42.4	18.5	.3	2.4	11.6	
Wayne	1,903.3	330.7	59.4	1,513.2	301.5	67.5	46.3	33.7	60.9	53.5	19.9	.5	4.2	15.0	
All counties	21,561.5	3,004.0	704.4	17,853.1	3,298.5	566.1	576.5	341.7	708.4	642.4	241.1	5.5	42.5	174.3	

SOUTHWESTERN OZARKS

Barry	546.5	14.9	30.9	500.7	107.9	1.8	19.2	15.7	38.4	11.5	7.5	2.2	5.3	6.3
Christian	452.2	21.9	15.6	414.7	77.2	5.7	15.4	11.6	23.2	7.3	5.7	1.8	1.8	4.7
Douglas	791.1	89.3	24.8	677.0	142.8	23.0	25.3	16.7	38.3	18.3	10.4	2.8	2.5	5.5
Howell	972.0	97.2	43.7	831.1	197.2	26.5	28.5	27.0	59.1	24.5	13.3	3.9	8.1	6.3
McDonald	579.4	12.5	36.0	530.9	121.7	2.9	27.6	14.7	36.0	15.3	8.8	3.6	6.0	6.8
Newton	390.7	3.8	18.5	368.4	79.4	1.1	12.8	15.8	27.3	7.1	7.1	2.2	3.7	2.3
Ozark	750.5	54.3	30.0	666.2	161.2	13.3	27.6	32.0	44.5	15.4	10.5	6.2	4.4	7.3
Stone	429.6	11.2	35.6	382.8	84.1	1.1	15.9	11.0	22.8	12.5	8.3	2.4	4.6	5.5
Taney	483.9	23.0	38.2	422.7	81.8	1.7	14.0	19.5	19.9	7.1	5.0	2.2	3.8	8.6
Texas	1,205.7	216.3	20.6	968.8	224.0	56.1	45.2	24.6	56.1	15.1	12.6	4.5	3.2	6.6
Webster	397.8	2.2	15.6	380.0	73.2	.6	15.8	11.1	25.9	6.5	5.9	2.6	1.4	3.4
Wright	615.3	4.5	36.4	574.4	125.2	1.7	19.6	22.0	43.9	11.8	10.0	2.9	6.7	6.6
All counties	7,614.7	551.1	345.9	6,717.7	1,475.7	135.5	266.9	221.7	435.4	152.4	105.1	37.3	51.5	69.9

NORTHWESTERN OZARKS

Benton	535.4	10.9	23.8	500.7	81.2	0.8	18.9	17.9	21.8	7.4	3.8	4.9	1.8	3.9
Camden	909.2	5.3	32.0	871.9	186.0	--	43.5	25.9	68.6	22.2	10.6	5.3	1.3	8.6
Cedar	254.7	.6	10.8	243.3	46.1	--	12.4	11.0	12.7	2.7	3.4	1.6	1.2	1.1
Dallas	372.1	.3	11.4	360.4	58.6	--	10.6	18.6	19.9	3.0	2.3	2.3	1.5	.4
	282.6	1.2	38.2	256.2	61.3	--	5.1	8.9	12.4	7.6	6.0	5.6	3.9	11.8

County	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10	6.11	6.12	6.13	6.14	6.15	6.16
Polk	278.5	14	29.6	257.5	52.4	4	8.1	14.3	11.9	6.9	2.3	2.0	4.3	2.6		
Pulaski	709.3	15	51.8	616.0	126.5	4	28.1	17.2	47.7	18.0	6.1	2.1	4.3	12.6		
Saint Clair	375.6	2.7	44.8	328.1	65.0	--	9.8	15.7	9.0	10.2	5.0	2.8	8.6	3.9		
All counties	6,676.7	49.8	413.4	6,213.5	1,201.6	6.0	285.8	215.9	359.3	116.8	61.2	37.6	51.2	67.8		

MISSISSIPPI RIVERBORDER

Boone	383.9	2.2	57.1	324.6	94.4	0.1	34.0	5.2	6.7	13.2	5.9	1.3	7.9	20.1		
Callaway	1,031.3	3.7	93.2	934.4	237.9	.1	76.9	16.6	42.0	43.2	16.8	3.3	13.1	25.9		
Cape Girardeau	612.4	.7	61.3	550.4	193.8	.1	55.3	15.1	33.2	30.1	14.3	1.7	9.1	34.9		
Cole	458.4	6.8	45.2	406.4	118.9	.3	47.9	9.3	11.2	16.1	8.6	1.7	7.2	16.6		
Franklin	1,375.2	11.0	51.1	1,313.1	341.1	.6	173.9	30.8	43.3	42.5	21.0	4.1	9.4	15.5		
Gasconade	664.2	2.0	31.6	630.6	178.4	--	82.9	19.6	16.2	21.5	12.2	2.7	8.0	15.3		
Howard	303.6	1.6	48.8	253.2	84.3	.1	29.3	3.9	4.4	7.3	4.9	1.6	7.4	25.4		
Jefferson	718.4	16.7	45.6	656.1	143.5	2.4	59.0	19.3	12.5	18.8	10.6	2.7	3.6	14.6		
Moniteau	266.9	2.4	19.7	244.8	58.2	.1	21.8	7.9	6.6	8.5	4.1	.9	1.1	7.2		
Montgomery	583.2	3.8	66.3	513.1	163.1	.1	41.2	11.5	18.3	24.1	11.2	3.1	16.5	37.1		
Osage	943.8	10.3	47.9	885.6	204.4	.1	100.6	23.2	17.8	23.2	12.5	3.0	9.2	14.8		
Perry	649.0	36.9	55.7	556.4	178.8	2.2	62.6	14.2	27.9	28.0	13.2	1.9	7.3	21.5		
Saint Charles	442.3	.7	39.4	402.2	118.8	--	55.6	6.6	14.4	19.4	6.8	1.7	3.0	11.3		
Sainte Genevieve	759.0	40.7	23.1	695.2	180.9	7.2	55.1	21.6	31.5	31.1	16.5	2.3	3.5	12.1		
Saint Louis	285.2	8.1	19.9	257.2	73.3	.1	29.7	5.5	9.1	10.3	5.0	1.0	1.4	11.2		
Warren	829.0	.6	34.3	794.1	231.8	--	123.3	11.1	32.8	33.1	12.6	2.5	4.9	11.5		
All counties	10,305.8	148.2	740.2	9,417.4	2,601.6	13.5	1,049.1	221.4	327.9	370.4	176.2	35.5	112.6	295.0		

MISSISSIPPI BOTTOMLAND

Dunklin	209.5	10.1	59.5	139.9	66.9	4.6	2.1	3.8	0.8	16.1	3.5	0.1	2.2	33.7		
Mississippi	227.6	10.1	66.6	150.9	75.7	4.7	1.6	4.2	.4	17.5	4.3	.1	3.1	39.8		
New Madrid	285.6	12.4	90.7	182.5	93.8	5.7	2.0	5.6	.9	22.1	4.5	.1	4.5	48.4		
Pemiscot	152.8	8.6	46.8	97.4	51.5	4.1	1.1	3.3	.4	13.1	2.5	--	1.9	25.1		
Scott	136.4	3.1	29.5	103.8	38.2	1.2	5.8	1.2	2.7	8.8	3.6	--	1.4	13.5		
Stoddard	481.5	17.2	129.0	335.3	146.1	7.9	12.7	8.0	4.5	36.3	8.7	.3	5.5	62.2		
All counties	1,493.4	61.5	422.1	1,009.8	472.2	28.2	25.3	26.1	9.7	113.9	27.1	.6	18.6	222.7		
Prairie total ^{2/} (from table 2)	10,903.2	0.9	3,009.4	7,892.9	3,058.9	0.1	459.3	314.5	180.2	397.9	211.8	190.3	612.2	692.6		
State total	58,555.3	3,815.5	5,635.4	49,104.4	12,108.5	749.4	2,662.9	1,341.3	2,020.9	1,793.8	822.5	306.8	888.6	1,522.3		

1/ Net timber volume of live merchantable sawtimber and poletimber trees from stump to a minimum 4-inch top diameter inside bark of the central stem. Does not include limbs or cull tree volume. One standard survey cord is equivalent to 79 cubic feet of solid wood.

2/ Net timber volume of live merchantable sawtimber trees (softwoods 9.0 inches d.b.h. or larger and hardwoods 11.0 inches d.b.h. and larger) between the stump and a point in the top of the stem at which utilization is limited by large branches, forks, or other defects or by a diameter inside the bark of 8.0 inches for hardwoods and 6.0 inches for softwoods. Board feet by the International Log Rule, 1/4-inch kerf.

3/ Includes post, swamp white, swamp chestnut, overcup, bur, and chinkapin oak.

4/ Includes scarlet, northern red, blackjack, cherrybark, Nuttall, pin, Shumard, shingle, southern red, water, and willow oak.

5/ Note that sawtimber volume for the entire Prairie Region has been presented here in more detail by species groups than in table 2.

Table 2.--Volume of growing stock and sawtimber on commercial forest land in

the Prairie Region by major species group, subregion, and county

NORTHERN PRAIRIE

County	Growing stock (thousand cords) 1/			Sawtimber (million bd. ft.) 2/		
	All species	Soft hardwoods	Hard hardwoods	All species	Soft hardwoods	Hard hardwoods
Adair	288.0	68.2	219.8	81.8	23.8	58.0
Andrew	132.6	46.4	86.2	38.7	15.6	23.1
Atchison	120.3	34.7	85.6	34.2	11.9	
Audrain	215.2	79.0	136.2	65.0	27.5	37.5
Buchanan	159.9	58.2	101.7	47.3	19.8	27.5
Caldwell	131.2	38.7	92.5	38.1	13.6	24.5
Carroll	206.3	60.1	146.2	60.7	21.4	39.3
Chariton	303.3	115.7	187.6	97.1	41.6	55.5
Clark	237.6	57.2	180.4	65.2	19.7	45.5
Clay	100.6	30.6	70.0	29.7	10.7	19.0
Clinton	108.9	33.4	75.5	34.0	12.1	21.9
Daviess	177.9	45.8	132.1	49.5	15.9	33.6
DeKalb	122.2	35.4	86.8	36.5	12.6	23.9
Gentry	142.5	42.4	100.1	40.8	14.6	26.2
Grundy	132.7	40.0	92.7	39.2	14.1	25.1
Harrison	187.3	46.6	140.7	53.5	16.2	37.3
Holt	146.5	52.8	93.7	43.0	17.9	25.1
Knox	182.1	67.0	115.1	52.5	22.4	30.1
Lewis	222.8	62.9	159.9	62.5	21.7	40.8
Lincoln	388.8	100.1	288.7	112.1	35.2	76.9
Linn	173.7	52.6	121.1	50.8	18.3	32.5
Livingston	220.1	64.8	155.3	65.4	22.9	42.5
Macon	382.1	102.9	279.2	111.6	36.4	75.2
Marion	211.0	3/ 45.2	164.9	52.9 4/	14.9	37.9
Mercer	103.0	30.6	72.4	29.5	10.4	19.1
Monroe	259.4	56.5	202.9	71.4	19.8	51.6
Nodaway	183.6	58.7	124.9	51.4	19.6	31.8
Pike	418.8	92.7	326.1	112.2	31.7	80.5
Platte	197.0	66.7	130.3	57.7	22.7	35.0
Putnam	181.3	40.1	141.2	50.7	13.9	36.8
Ralls	216.2	48.0	168.2	59.7	16.8	42.9
Randolph	196.9	44.5	152.4	53.0	15.4	37.6
Ray	226.7	51.9	174.8	62.2	18.0	44.2
Schuylerville	86.7	21.0	65.7	24.5	7.5	17.0
Scotland	160.3	40.3	120.0	47.9	14.3	33.6
Shelby	172.5	39.5	133.0	45.7	13.6	32.1
Sullivan	252.8	63.9	188.9	73.7	22.7	51.0
Worth	59.8	18.1	41.7	17.9	6.4	11.5
All counties	7,408.6	3/ 2,053.2	5,354.5	2,119.6	4/ 713.6	1,405.9

SOUTHWESTERN PRAIRIE

Barton	132.3	38.9	93.4	38.1	13.3	24.8
Bates	265.3	104.5	160.8	79.7	35.3	44.4
Cass	206.2	55.0	151.2	56.5	18.0	38.5
Cooper	243.7	57.6	186.1	64.7	19.4	45.3
Dade	222.6	40.5	182.1	55.3	13.2	42.1
Greene	279.9	55.2	224.7	71.5	18.4	53.1
Henry	243.8	77.4	166.4	70.4	26.2	44.2
Jackson	172.3	46.3	126.0	45.9	15.1	30.8
Jasper	209.7	46.7	163.0	54.1	15.4	38.7
Johnson	258.1	80.3	177.8	71.2	27.2	44.0
Lafayette	135.4	47.4	88.0	40.2	16.4	23.8
Lawrence	243.4	34.7	208.7	55.0	10.8	44.2
Pettis	246.7	61.2	185.5	65.6	20.7	44.9
Saline	235.2	81.5	153.7	69.3	28.2	41.1
Vernon	400.0	129.0	271.0	101.8	39.8	62.0
All counties	3,494.6	956.2	2,538.4	939.3	317.4	621.9
Prairie total	10,903.2	3/ 3,009.4	7,892.9	3,058.9	4/ 1,031.0	2,027.8

1/ Net timber volume of live merchantable sawtimber and poletimber trees from stump to a minimum 4-inch top diameter inside bark of the central stem. Does not include limbs or cull tree volume. One standard survey cord is equivalent to 79 cubic feet of solid wood.

2/ Net timber volume of live merchantable sawtimber trees (softwoods 9.0 inches d.b.h. or larger and hardwoods 11.0 inches d.b.h. and larger) between the stump and a point in the top of the stem at which utilization is limited by large branches, forks, or other defects or by a diameter inside the bark of 8.0 inches for hardwoods and 6.0 inches for softwoods. Board feet by the International Log Rule, 1/4-inch kerf.

3/ Includes 900 cords of softwoods.

4/ Includes 100,000 board feet of softwoods.